HARVESTING WHEAT ON THE PLAINS.

The sharp rattle of the harvesting machinery fills the air on the Kansas pleins, Kancrop. All males over 12 years old are to-day engaged in the saving of the wheat, and wheat

is never saved until it is in the bins.

The harvest of a crop of one hundred acres of wheat in New York is not a common thing. But on the Western plains, where the growing of wheat is a regular business, and in some see tions, notably in the so-called Golden Bett of Kansas, it is almost the only industry followed. many men have fields of 600 acres. Fields of wheat of 2,000, 3,000, and 4,000 acres are not prommon. The handling of these enormous cross is so radically different from the method practised by the Eastern farmers of New York. Pannsylvania, and New England, who in many esses still use the cradle to cut grain, and thresh it with a flati, that they will read with interest of the saving of a crop, where the industry and capital of the land are entirely devoted to the raising of it.

The wheat having successfully run the gauntlet of locusts, hail, rust, and chinch bugs, is endy for the sickle. The straw is still greenish, but the berry is in the "stiff dough," and machines known as "self-binders and harvesters" are set up, and soon are at work in the fields. In some fields five or six self-binders can be seen at work. These machines are drawn by three horses, driven by a man who rides on a high spring seat. The constant siang, clang, clang of the steel springs of these machines, as they deliver the tightly-bound bundles, the quick jerking of the bundles through the air, the incessant revolving or rising and failing of the iron binding arms, the straight rows of bound bundles lying on the ground, the few men seen in the fields lonly one man being allowed to each machine to shock the graink, strike the unaccustomed observer forcibly. In other fields "harvesters" are at work. These machines are drawn by three horses. The men who bind ride on the machine, and bind the grain as it is delivered to them by an elevator. Some of these machines have cotton cloth stratched over the binders, so that they are protected from the direct host of the san. The seif-rake reapers are out of date in the West. The cradle is almost unknown. The young men of the plains are unable to use this tool.

As the harvest progresses the straw gets drier through the air, the incessant revolving or

binders, so that they are protected from the direct heat of the san. The seif-rake reapers are out of date in the West. The cradle is almost unknown. The young men of the plains are unable to use this tool.

As the harvest progresses the straw gets drier and drier, and the harvesters and self-binders, if the weather looks averable, are laid aside and the "headers" are called on to save the crop. This machine has the sickle bar directly in front. The tongue, where the neck-yoke ought to be, is a wheel that runs on the ground. This wheel serves as a rudder. A small platform is built above the wheel on the tongue, and the bein of the header stands some 18 inches above this platform, high enough for the driver to straidle and get a good arip on it with his legs. Four horses are hitched to this machine, the whiffle-trees being at the end of the tongue. The team is whipped up, and they start, pushing this machine in front of them, cutting a swath from the foixinen feet wide, the grain as cut fulling on mendless canvas auron that moves rapidly from right to left. This apron delivers the grain to a wide elevator, formed by two endless canvas belts that revolve rapidly. The canvas has oak stats nalled across it every few inches. So as to prevent sagging. The straw as cut is carried to the point where it can be firmly grouped between the two belts of the elevator. These clevate it, and it is discharged in a steady stream in the header boxes that are placed on the common farm wagons. These boxes are 16 feet long. Seet wide, and 3 feet deep. As one is filled the machine stops for an instant, the wagons are required to tend a header, and seven men are needed—four drivers, a londer, and two stackers. It is the cheapest way known of entire when it is a stacked, and the stirring plows can start at once to brepare the land for fail sowing. The entry drawback to the mee of the leader is in the great difficulty of building strakes of this loose straw that will turn rain during the flerce, driving thougher so were and the sarden,

for it.

When the grain is cut the Kansas farmers

When the grain is cut the handling of the thers equally well informed, allow the stand in the stack until perfectly dry, a thresh from the shock. Still others and then thresh from the shock. Still others thresh from the heads if the weather be favorable. The milles prefer grain that has been sweated in the straw claiming that the wheat bas got to go through this process either in the straw in the bin or in the flour; and they prefer to have its was before they grind it. The word "sweat" is used to denote a neculiar process. The straw on the stack becomes damp, and the wheat that was "off color," or bieachest before stacking, has its color restored. Shriveled wheat becomes plannper. In about tour weeks after stacking the wheat is through the sweat, and is ready for threshing. If it sweats in the bin, the grain feels damp, and in Balawardie weather heats.

A pole of threshing in the summer is dreaded by an inear, but the work has to be done. The chemest way to do it is with a separator, driven to ten or twelve heres. These machines will bresh and clean from 400 to 800 bushels of these

driven by ben or twelve horses. These machines will taresh and clean from 400 to 800 bushels of wheat per day. The horses march around in a direle. The driver, stending on top of the power with a long whap in its hands, keets up a clished volume of the bower with a long whap in its hands, keets up a clished volume at the teams. The circle the horses must hon becomes hard and dusty. The dust rases in vest clouds, and is sweet by the strag winds, that how constantly in Kansas. On the machine and stacks. The feeders, two in number, alternate in feed up the unthrestic Straw isto the superator. The man who is off work oles the machine, and keeps it in running order. The other, standing on a platform in front of the cylinder, grees a bundle, and with a dolf machine, and the straw shakes true made a dark the contested cylinder. A steady stream of unthreshed straw is kept going into the machine. At the other cent of the separator a loss mass of chopped straw is elimong up the straw carrier, to be dropped on the straw shack. Men pain the bundles to the machine. They are warm. The air is cense with diss. The heat of the sun is terrific. Rapidy the men become black with diss. They speak only to demand water. They work sheatly, steadily, until the machine steps for some trifing repairs. Then they throw themselves down to rest, but in an instant the voice of the driver is hears, Get up) get up! The horses strain, the cylinder turns, hours of the strain the spinder turns, hours of the strain the standard and the standard and the standard th an from 400 to 800 bushels

fing repairs. Then they throw themselves down to rest, but in an instant the voice of the driver is heart, "Get up) get up." The horses strain, the cylinder turns, hours softly as it gets speed, then roars loudly as it catches the full notion. Again the air is then with dust; again the straw is being rapidly fed into the hungry fronchar mouth of the separator. A man is seen to starger. Dropping his fork, he clasps his head with his heads and falls—melted with the beat. He is instantly grasped and carried to the shade; his head is cooled off, his shift opened, and the work is resumed. As night somes on the men are tired out. Those skins are on the so dreadfully have they been irritated by the dust and chaff of the grain. Thur eyes are bloodshot; they are hungry. Soon after support hey all go to sleep—some in

r pipes he down on the ground and etc.

stothe men come from that help handle rige crops? We depend, first, on the second on wheat harvest 'tramps, then start in Texas and tollow the harth, Some keep on the line of the rivers, can in Texas until her harvest is saved, by strike for the Mississippi River and the total for the North. When they tested to work. Finishing there, they go both, and so keep on until Minnesota of deasing work only when the great when the life in the life in the result. Other men get in their wagons wheat on the Rod River and Dakota tent. Other men get in their wagens a horth. These, in hundreds of vent to seen tening north to-day. They he copy of Tegas. The errop of Southests has been saved by them. The of Nebrassa are booking toward the horizon for the white-topped wagens stight. Soon they will be among the to Dakota pains. These mon are the rivest hands. But some of them have arrived thands. But some of them have arrived these of the rights of personal and are especially loose in morais in horses.

part of the wheat raised in the for part of the wheat raised in the old to buyers in the little villages along the railroads. The buyers, three or number, club together. Almost daily et and agree upon the price they will then, and how they will grade it. Their are pooled, and the profits divided between the members of the pool, the the wheat is free from rye, is round, and weights sixty-three pounds per its never No. 1, seldom No. 2, but gends. 3. This system of organized plander.

bart of the buyers is known to the wheat

strowers; but they can de nothing. The raffroad refuses to furnish them care if they wish
to ship their own wheat. Or it they do get ears
and slip, something is apt to happen to their
car. I lenks, or the wheat follows make a raid
on it, or the grain commission men of Kansas
City swindle them; or the grain inspecors of Kansas City or St. Louis make fraudulent inspections in the interest of the commission men, who own them. So the wonters
results disastrously to the small grower who
struck for freedom, and, with his harted of railroads and middlemen strengthened, he sweates
profoundly, and returns to his fawn to lose his
wagons with wheat to be sold to the local pool.
These men look at it, say it is musty, damp,
dunaged, ryo-mixed, off color, not through the
sweated, and overweight, can do nothing. He
sees it graded No. 3, takes the price of No. 3,
and knows it is No. 1. And he wonders it justice
will ever govern the affairs of this world. And
I wonder that he preserves any of the sweetgrowers; but they can do nothing. The raff-

THE INDIAN PANTOMIME LANGUAGE.

It is perhaps not generally known that orth American Indians, although speaking different languages, possess in common a means of communication that is intelligible to all the tribes. The rapidity with which they exchange ideas by this method is remarkable. I have seen Sloux in council with Arapahoes Shoshones, and Crows, and perfect understanding seemed to characterize their deliberations. Not a word was uttered, but every gesture was significant, and each look as expressive as our longest periods.

In this sign language these particular tribes are represented as follows: The Sioux, by drawing the right hand across the throat, signilying "cut-throats:" the Arapahoes, by touch ing the left breast, meaning "the good hearts; the Shoshones or Snakes, by a gliding move ment of the hand similar to that employed by the reptile whose stealthy approach they emulate; and the Absaracas or Crows, by imitating with crooked elbows, the flight of the birds that, by their number, have given a name to the plateau east of the Big Horn Mountains, as well as to its former occupants. They were dispos sessed by the Sloux.

Other tribes are similarly distinguished: while the whites, or "hat-wearers," are univer-sally described by indicating upon the forehead the supposed line of contact of that useful article of wear. The sign for a "big chief" is made

by raising the forefinger pointed upward, in a ver tical direction, and ther reversing both the finger and the motion. The greater the elevation, the bigger the chief. An Indlan tipi, or lodge, is indicated by both forefingers crossed near the nails, as in the cut A so as to present the general outline of a lodge; while the hands partly folded, as in cut B, in imitation of the corner of an ordinary rail

fence, signifies a set-

tlement or town.

The simple affirmative is signified by gesticulating, with extended forefinger, after the stereotyped manner of many elderly men in argument, and this is rendered emphatic, in the sense of "I understand," by the same movement repeated, the thumb and forefluger extended, the other fingers closed, nails up. The sign of negation consists of a deprecatory wave of the hand from front to right; while doubt, perplexity, or ignorance is expressed by the combined signs, "Yes—no." How significant! Again, a negative proposition is often stated affirmatively, and "no" added. The reverse likewise obtains and, generally, the opposite of anything expressed may be indicated by appending "yes

or "no," as the case may be, For example: The sign for a woman is made by drawing the fingers through the hair as though combing it: and a man may be signified by declaring, "A woman-no," A stream is expressed by a movement of the extende hand, indicative at once of the flowing of water and the meandering of its current; and this sign made in reference to any locality, follows: by that of negation, will impart the absence of running water.

The hollowed hand presented to the lips is the symbol for a drink. Grass, undergrowth and trees are represented by corresponding heights to which the hand, with fingers extended upward, is raised. Fire is similarly indicated, the fingers moving in imitation of tongues of flame; and a waving and constantly ascending motion means smoke. The idea of plenty is conveyed by a movement of the hands as if gathering or heaping up, while " not any is signified by smartly brushing the right hand across the palm of the left, in the direction of the fingers. This is also a sign for cleanlinneatness, &c. Poverty of means, of flesh, &c. is expressed by passing one forefinger over the other as if whittling or paring it; and proportionate lengths of the same finger, exposed by this means, represent the fractions onefourth, one-half, three-quarters. The fingers of both hands are rapidly used in counting

above ten. horseback" is sig nifled by separatmiddle fingers (C) of the right hand over the fingers of

the left, extended and joined. The forelinger thrust from the mouth directly to the front, like a tongue, is a token of truthful speech. Faiseood, or the "forked tongue," is made by the same movement of the extended fore and midfle flugers. " Beating the bush," or " whipping the devil 'round the stump," as our phrase has it, is indicated by passing the forefinger from the mouth in a course leading around the head, or in any other than the direct course. A false hood may also be represented by "a truth-

The signs for articles of diet are less arbitrary. Bacon is meant when the thumb and for-finger of the right hand are separated as it to feel the thickness of the left hand. Sugar and sait are distinguished by the expressio given to the face when the tip of the finger, as if conveying a small quantity of either, touche the tongue; and pepper is "salt," with the ad dition of a sneeze. To represent flour they go through the process of kneading dough, and Coffee naturally suggests a movement of grinding, the mill for that purpose being in commuse; and ten becomes, as it really is, a drink compounded of aromatic leaves.

Beauty of face or figure is signified by a caressing or stroking motion of the hand, and this sign, when not made in immediate juxtaposition to any part of the body, is a general one for complacency or satisfaction. Desire of possession is shown by working the foreilnger over the nose. The forefingers crossed at right an-

gles, as in D. means a trade or "swap." Perhaus the most interesting signs are those resensons. The fall of rain and snow is readily imitated, and the temperature is indicated by manifesting cold or heat. By this means sum mer and winter may also be implied; but I have seen them distinguished by indicating a greater or less meridianal altitude of the sun, thus evincing observation, if not a knowledge of astronomical phenomena. Shooting grass and falling leaves are symbolical of spring and autumn. To designate an hour of the day, the thumb and foreflager approximating a circle are made to describe an arc corresponding



the supposed course of the sun, as shown in E.

and remaining stationary for a second at the proper height. The same hour yesterday is indicated by reversing the movem ent from this point. An entire revolution, forward or retro-

grade, continued with the required show of fingers, will accurately convey any number of days, future or past, and the exact hour upon the day in question. This, of course, conforms to their belief that the sun revolves around the

earth. To signify years, the recurrence of the sensons is indicated, winter being the favored one in this respect, whonce their oft-quoted phrase, five, or seven, or any number snows.

Darkness or night is expressed by a simultaneous motion of the hands from a position at their respective sides, foreurms horizontal and palms up, in a circularly approaching manner, so as to bring their palms down, one above the other, in front of the body, as though to signify that" everything is closed." This movement is shown in F. Everything open, that is to say,



day or daylight, is this movement reversed (G), and both are very significant,



I might proceed to multiply examples of this curious sign manual, but enough has been written to give an idea of its effect, and the facility with which conversations may be carried on by its means. Although ordinarily imperturbable, the Indians possess in a remarkable degree variety and power of facial expression, which, added to their graceful gesticulation, makes this, as practised by them, an interesting and wonderful pantomime.

THOMAS PAINE

The Notion that He was the Author of the Becineation of Independen

To the Editor of The Sun-Sir: Probably no man who played an important part in the American revolution is so little known to the great mass of the American people as is Thomas Paine. Paine was not only the intimate friend of Franklin (who induced him to come to Amer-ica), but also of Jefferson and Washington. He ecompanied Washington in several campaigns and was warmly invited to visit him after the close of the war. He was also the personal and political friend of Jefferson; and while Jefferson was President he urgently invited Paine to return to the United States from France, where he then resided, and ordered a national vessel to convey him to America.

Thomas Paine was the first person to publicly and boldly advocate the complete separation of the American colonics from the mother country. Through all the troubles preceding the year 1776, nothing further was asked or expected by the people of the colonies than the oncession of what they considered their rights as British subjects. Paine's pamphlet, entitled "Common Sense," advocating separation and independent government, appeared in 1775. and was the first public advocacy of absolute independence. His arguments in favor of separation were well received, because, as has been said, "they expressed what all men thought, but none dared to speak." This pamphlet had an enormous circulation for that time, and mainly contributed to prepare the public mind for the Declaration of Independence on the following Fourth of July.

The fact that Paine accompanied Washington in some of the campaigns of the revolution is referred to by historians of the period, but in what capacity he was attached to the army does not clearly appear. We know, however, that his stirring addresses, by means of his pamphlets entitled "The Crisis," published from time to time during the darkest days of

pamphlets entitled "The Crisis," published from time to time during the darkest days of the revolutionary struggle, did much to animate the army and encourage the people generally to hope for a successful issue of the war. These pamphlets, thirteen numbers in all, were published at intervals, and continued from the first year of the war to its termination—the last congratulating the country on the achievement of independence.

Totaliv routed in the battle of Long Island, driven out of New York, and closely pursued through New Jersey, Washington's army was so demoralized and disheartened that it was with great difficulty it could be kept together at all. At this critical juncture appeared the first number of "The Crisis," opening with these ringing sentences: "These are the times that try men's souls! The summer soldier and the sunshine patriot will in this crisis desert the service of his country; but he who stands by it now deserves the thanks of man and woman. Tyranny, like hell, is not easily conquered; but we nave this consolation with us." de.

The effect of this address on the army is described as electric. The soldiers were reanimated with hope, deserters and stragglers rejoined their commands, and the first success of the war soon followed in the crossing of the Delaware and capture of the Hessians at Tronton, As the successive numbers of "The Crisis" appeared it is said that they were, by Washing-Lon's orders, requairly read to every company in the army. Some writers have even declared that the pen of Pane contributed as much to the success of the Hevolution as the sword of Washington.

At this late day it is impossible to produce any

success of the Bevolution as the sword of Washington.

At this late day it is impossible to produce any positive evidence in regard to the authorship of the Beclaration of Independence, but its strongest probabilities are in favor of Thomas Paine. His reputation as a foreible and vigorous writer was aiready established by his mamphlet of the preceding year. "Common Sense." He was the friend of Jefferson, and it is in every way probable that Jefferson would have been as anxious to receive the assistance of Paine as Paine would have been wilding to accord it. There is nothing more natural than that Jefferson should call Paineto his aid, or even request him to undertake the work of writing the desired son should call Patneto his aid, or even request him to undertake the work of writing the document. Every literary man knows that such things are done every day, and that many persons get the credit of writings which are the productions of others. Well, then, suppose Paine and preduct the required document, and deferson comed it and it was duly submitted to the Continental Congress in Jefferson's handwriting. From that moment it became a point of honor with both Jefferson and Paine to keep the matter secret. may be thought that when the Declaration

honor with both Jefferson and Paine to keep the matter secret.

It may be thought that when the Declaration of Independence became in necessipliated fact, and some givery attached to its authority. Paine would naturally have claimed the honor of its gaternaty. It is well known that Paine never sought any personal honor or profit from any of his writings. He is reputed to may be easily for the writings. He is reputed to may be easily of his writings. He is reputed to may be easily productions. The "Bignts of Man" is said to have had a much largery circulated books ever issued up to that time, and, in fact, was one of the most largery circulated books ever issued; but Paine bestowed the whole of his share of the profits of the publication in charity.

That Thomas Paine was the real author of the Declaration of Independence few candid readers, laminar with his writings, will very conflicintly deny. The similarity of the language of that document to other writings of Paine is remarkable; so much so, indeed, as to render it morally certain that they are cmanitions of the same mind. Indeed, there are phrases in the Declaration of Independence which are identical with phrases in the "Rights of Man," and, in fact, the Declaration of Independence which are identical with phrases in the "Rights of Man," and oncentrated form.

That Thomas Jefferson was a man of great ability is freely conceded; but his cast of thought was philosophical and raticeinative. Paine, on the contrary, was original, daring, vehement, and auggressive; and precisely such a man as could and would write just such a document as the Declaration of Independence. That Thomas Paine had the ability to produce such a writing as the Declaration of Independence his most bitter enemies will not venture to deny. The man who did not shruk from measuring swords with Edmund Burke in the encounters—and who placed himself in the vanguage of the Beclaration of Independence. The man fifth of these eminent all sections of the encounters—and who placed himself in the va

Whether we see it in the lowly snake, Or in the wisdom of the primal cause, "Tis all the same-we sleep, and dream, and wake To opening vistas of carth's splendid laws.

Who now shall say that some of us are not Held back in check, or moved to effort grand, By power supreme, that we can never blot, Or grasp in futiness or its force command? EDWARD S. CREAMER. CONCERNING WOOD ENGRAPING

Illustrative art, which may be taken to be the preparation of pictures for the uses of the has made extraordinary progress in the last ten years, and nowhere more than in America. The methods employed are wood engraving, lithography, photo-engraving, steel engraving, etching, photogravure, and other processes of which photography forms an essential part. Wood engraving is the art of translating and interpreting the varying equivalents of black and white, that compose a given drawing, into a system of linear and other surface, which, when treated with ink, will give off an impression that shall as nearly as possible convey the character and distinctive qualities of the drawing itself. Lithography is the art of drawing upon the prepared surface of blocks of stone and producing a granulated or linear surface of a greasy or ofly texture, having such an affinity for the like nulities of the lak to be employed, and so repeliant of water that when the face of the stone s wet lightly and a roller charged with the ink passed over it that portion only that is so treated will take up the ink and transfer to paper, under pressure, the design that is im-plied. It is a large and profitable industry, and growing with extraordinary rapidity. Photo-engraving, or the production of " proess plates," is a comparatively recent discov-

ery, which promises to invade the whole field of Sustrative art, and which has already displaced wood engraving of a certain class. There are several methods of producing " photo-plates," and the best of them are pegarded as secrets belonging to those using them. A drawing, to be susceptible of reproduction by photoengraving, must be in black and white-that is it must be positive, and possess no gradations of color or tone such as are produced by a wash of Indian ink. The general principle involved in its treatment may be readily inferred by any one who has ever seen a photographer's negative plate, on which varying degrees of opacity and translucency make up the picture or image of the object which has been projected by the camera on the sensitized surface.

A piece of glass, coated with a preparation of bichromate of potash and gelatine, is applied to the negative of a black and white drawing and exposed to the sunlight, just as sensitized paper is in the printing of ordinary photographs The parts of the gelatine surface to which the light has access through the translucent portions of the negative are rendered insoluble, so that when, after a sufficient exposure, the negstive is removed, there remains a sheet or film of getatine, upon which the design is traced in esolubility. This film is subsequently treated in a variety of ways. It is placed in water and the soluble portion is partially dissolved away leaving the insoluble portion intact, or the soluble portion is made to absorb water and swell so as to form a relief. From reliefs, secured in either manner, plates are made by a variety of processes, involving either the direct or indirect formation of matrices and the production of either electrotypes or stereotypes. In the one case the gelat ne is coated with gold (chl.), upon which copper is precipitated by electrotypy and in the other the direct matrix is secured with plaster of Paris or wax. With either, excellent results are secured, and even charcoal drawings, which are composed of carbon dust can be reproduced with accuracy and effect, the camera resolving the material of the drawing, microscopic though it be, into individual parti cles of black and white, and the gelatine and bichromate of potash affording for each particle a corresponding elevation or depression.

Steel engraving and etching upon copper o zinc plates are both better understood by wellinformed people. Both are mechanically the converse of wood engravings. In the latter the surface which is left intact after the graver has cut away and eaten out the wood receives the ink and transfers it to the paper; in the former the raised surface remains clean, the furrows and depressions receive the ink, and from them it is taken up by the paper under the pressure

applied by the printer.

Photogravure is a method of printing reproductions in black and white, or "photograph color," of a picture by the intervention of process quite as mechanical as that just described. Both terms are more or less misno mers. Photogravure is a cold, delicate, and in expressive method of illustration, too gray and monotonous in its quality and too closely allied o photography pure and simple. It has, how ever, been successfully combined with a sort of mezzo treatment, whereby greater vigor of color and contrast is obtained by "rouletting" of the surface of the plates; but the method is open to the objection of indirectness and artificiality. so far as the artistic result is concerned.

To return to wood engraving as the branel of illustrative art wherewith it is proposed that one should chiefly be concerned in the presen writing: The wood used is box, sawed across the grain and prepared by joiners into blocks which are of a thickness equal to the height of a printer's type and otherwise of dimension proportional to the size of the illustration that it is desired to produce.

The surface of the boxwood yields with great ase to the graver, which is a delicate, wedge shaped tool. The wood is compact, of nice con sistency, and does not chip, but allows the too to make with every touch a furrow, of which a cross section would resemble the letter V. When a block leaves the engraver's hands the original plane of its surface is full of minute furrows and abrunt depressions, the design being con veyed by what is left untouched. It is not isual to print from the wood itself because of its liability to injury and its inability to undergo the repeated pressure of rapid printing without soon giving way. An impression is taken of it plumbers applied with soft brushes and exposed in an electrotyper's battery, by which thin film of copper is precipitated upon the plumbage. This "shell" is carefully removed, coated with solder, and backed up with type metal, and furnishes a hard, durable plate, called an electrotype, from which a large number of impressions can be taken without its sustaining any material injury.

Engravers are not, as a rule, a well-paid class. A page engraving in Scribner or Harper is worth from \$100 to \$200, but it requires for its production from two to six weeks, and the closest and most assiduous labor. Apprentices earn very much the same that they do in the ordinary trades. They do the cutting out of the wood in the blank spaces, the "routing," as it is called, and gradually work up to doing fac-simile, which is engraving without discretion, cutting out the white and leaving the black-as, for instance, engraving a pen-andink drawing on wood, where it is necessary merely to leave the lines and take away everything else. There are one or two engravers employed by the Messrs. Harper and Scribner who earn from \$60 to \$75 a week with tolerable regularity, but a majority of the steady workers earn about \$30 a week on high elass work. The work is not healthful, on account of the confinement and lack of exercise that it involves; and it tells seriously on the eyes, particularly with men who work at night. The temptation to do this is great, en gravers as a class being the most industrious of workers. They have to use a very strong light, to obtain which they concentrate the rays of a lamp on the block by interposing a glass globe containing water-a primitive but very effectual form of lens. For all their finer worl they use a powerful magnifying glass set over the wood in a rest sustained by a bracket. Con stant working with this for ten or twoive hours at a stretch involves a very severe strain upon the muscular and nervous structure of the eye The surface of a block is particularly agrees-

ble to the artist to work upon. It is receptive, if one may use the word to describe a certain directness and facility with which an effect may be produced, and it opposes few technical difficulties and uncertainties. Almost all the drawing that is done directly upon the wood and but a small proportion of really firstclass work is so done, is in Indian ink, with a little white used to sharpen and heighten the effect. Some are finished with pencil, the masses only being laid in with washes of ink, and the detail being put In delicately with a hard lead pencil. Some charming effects are secured in

this way, both the ink washes and the senett work having a much deeper significance upor wood than upon paper. The gradations of a wash upon wood are much softer and more mysterious than upon paper, and a pencil, which makes an indifferent and colorless mark upon the latter, produces without offert a strong and telling line upon the wood. To prepare a block for a picture it is whitened lightly, to concent the wood texture some artists preferring for this purpose the surface of white enamelle cards, because it takes held of the wood tens-ciously and does not lift with the first wash of Indian ink. The design is then lightly sketched in pencil or transferred from a prepared sketch with tracing paper. Most practical artists, however, draw directly on the wood with a brush charged with a thin wash, even figure men preferring that method, and only using a rough outline sketch in order to keep in mind the reversion of the design. It must be understood that the drawing on the block has to be reversed-that is, drawn inversely as it is to appear when printed. Some artists draw with a mixture of white and black (quache.) but the effects they secure upon the wood are not very brilliant and are extremely difficult to engrave, because bits of the color chip off as the graver runs through it and the engraver becomes confused. Others mix color with their Indian ink and make more effective drawings, but they commonly complain of the engraver, because he loses qualities which black and white cannot be made to translate. Pen and ink has been used successfully upon the block, but is now abandoned, because the pen

can be had at a few cents an inch. A really good drawing upon wood never looks as well again in the engraving, but a large number of the drawings that are used by the mage zines look infinitely better after they are engraved than they did when the artist handed them in. A good engraver can make a bad drawing very presentable, particularly if, like Mr. Linton, he can draw fairly himself. Marsh. Cole, Wolff, Juengling, King, and others have often made the indifferent draughtsman's heart to glow with honest pride when his drawing was printed.

An artist who draws upon wood as a profes sion, giving all his time to it, is in no grievous danger of growing rich. There are a few men who, with unusual skill and facility, and exceptional opportunities, have made \$5,000 a year To make that amount one must be in demand Our two leading magazines pay as high as a hundred dollars a page for the choicest pictures they use, which are generally those of artists who only occasionally draw for illustration, and not by men who are exclusively designers upon wood. As a general rule, it costs three times as much to engrave a block as the artist gets paid for his drawing on it, the exception being where the design used is that of an artist whose work naturally commands a high price some of the best artists who figure upon the Academy walls are glad to accept commis sions from the magazines for occasional work that they may have special fitness for. They themselves commonly allude to such drawings "pot boilers;" but it may be safely said that they often put their very best work into them-much better than that by which they prefer to be more conspicuously known. Their "pot boiler" quality lies in the fact that they bring in now and then a welcome \$50 or \$100, which really great works do not always do. Occasional drawings on wood caable many an artist to endure the gratification of keeping his pic ures in his studio, and postpone the day when the buyer shall order divorce between him and

The regular men are well enough paid to heir work, but they do not get enough of it to do. It is not the best artist that makes the mos noney, but probably the industrious and indifferent worker, who can turn out unlimited numbers of cheap blocks, vulgar imitations of Sir John Gilbert's worst work, for the low and sensational weeklies. An honest fellow who labors conscientiously over his weekly block and consigns it with a sigh of resignation to the Mr. Linton who is its destiny, makes in the aggregate comparatively little money.

write and draw. They are invariably well paid but the artistic merit of their work is not always too apparent. An illustrated article brings in to the writer and designer anywhere from three to five hundred dollars. An industriou and elever writer who can draw acceptably can turn out one article a month with ease, thereby making \$5,000 a year. This is the case as far as the labor is concerned, but as a matter of fact the industrious and clever writer turns out only one in a year. It is not easy to find suitable subjects, and magazine editors are often obtuse and unsympathetic, and refuse obstinately to believe that the public cares for what the author and artist is convinced is very fine work indeed.

The block is prepared for the engraver in two ways-by drawing the design upon it directly or by transferring it to the wood by photography. The latter is effected by making a negative of the drawing, sensitizing the wood ust as paper is sensitized, and printing the design upon it in precisely the same manner that is employed in ordinary photography. O course this method admits of the reduction of drawing to a block of any desired size. An other advantage that it possesses is that it enables the engraver to have the original drawing aiways in front of him to refer to, and that he is not at any time exposed to the danger of going wrong in his effects, by reason of no having something to refer to for the general effect that it was contemplated to attain. It also does away with the possibility of the design being lost by an accident to the surface of the block while the engraver is at work at it, and it has the very saintary effect of making the engraver responsible to the artist for the effect be attains. Before photography upon wood was adopted an engraver could say, when confronted with defects in his block, Well, what can I do? Your artist drew it so." Even now art editors who give out drawings upon the wood take the precaution to make ferrotypes or negatives of them, so as to hold the engraver to account if his work be unfaith ful. It used to be that artists would go wild over the engravings that were shown them as representing what they had put upon the wood with so much care. The imperturbable graver could always turn upon them with placid irresponsibility and tell them their drawing was at inult.

Te photography upon wood we owe the improved character of our wood engraving more than to any other one cause. As an engraver goes over the surface of his block, he destroy the drawing by transforming it into lines, which are actually meaningless and invisible until he dackens them with his lead pencil or ink dab ber. He has to depend too much on his men ory, and he invariably loses, and incurs the langer of substituting his own ideas for those of the artist. With the design photographed upon the wood, he has constantly before him the artist's work, and is really elevated, in a neasure, to the position of an interpreter of it. or translator of it into a new medium. It is in his sort of inspiration of the engraver that the chief provocation to excellent work lies, because it conceals the mechanical aspect of his function as much as possible, and brings him into a more intimate and sympathetic relation with the artist. Our best engravers—the men who are really artists themselves-prefer a very light printing of the drawing upon the wood, and then, setting up the design in front of the block, they work with as much reference to it as if ther were sketching it on the wood, instead of engraving t. Marsh has done some really wonderful engraving on wood directly from the object, with out any drawing at all; and the most ambitious engravers we have do their work as nearly a possible in the same way.

The distinguishing characteristic of American wood engraving is that mechanical notions of line are subordinated, and that the effects that render an artist's work distinctive and valuable are retained with the same precision and truthfulness that are observable in a clever etching of a painting. There is nothing much higher than this to be attained in the art of engraving. It does away with all false considerations of the

mechanical beauty of a line per se, and subpure line in its relation to discretionary wood engraving are as reasonable as discourses upon the quality of pigment as an element of beauty in an oil painting. Engravers nowadays know that there is something better to be attained. and they aim at a result as nearly as possib identical with that contemplated by the artist whom they follow.

Mr. W. J. Linton, who was in his time a first-

class mechanical engraver, and who gained a

reputation when the mechanical qualities of wood engraving were more admired than they are now, has recently published an article in the Atlantic Monthly, in which he repudlates photography on wood as a thing wholly beneath contempt, and assails the best of our engravers with remarkable bitterness and futility. Unfortunately for Mr. Linton's argument, he himself jurnishes an excellent example of the usefulness of photography on wood to defeat the impertinences of indifferent engravers, Mr. Linton has a formula of line for everything he engraves, and he engraves everything alike, so that when he is given a block by one artist he engraves it to look exactly like the block he had just previously cut by another artist. Engraved by Mr. Linton, the works of different artists are precisely allke; and artists that draw with indiriduality and distinction insist on those qualities being preserved, and consequently refuse to be engraved by Mr. Linton. Besides, Mr. Linton belongs to a peculiarly arrogant and aggravating class of engravers, who think nothing of changing the whole character of an artist's drawing to suit their own notions. Mr. works better upon paper, and it does not pay to engrave fac-simile work when " process plates' Linton, for instance, if he thought a foreground hat was dark would look better engraved in sunlight, would so engrave it, and unhesitatingly leatroy the very effect that the artist designed to produce. Mr. Linton's great trouble now is that he cannot any longer exploit his own peculiar and often ignorant notions at the expense of the artists, because photography upon wood has interfered with him, and because when, as we have heard it expressed, he "cuts the whole soul out of a drawing," it is compared with the original, the fact noted, and the block declined. Mr. Linton is an engraver of "tints" who think that every fact in a drawing should be resolved nto what he calls pure line, and who, unable to execute or understand what is better, abuses it

coundly, and personally assails those who do it He is not straightforward about this, or he loes not know what he is talking about, because re assumes in every case to hold the engravers responsible for the artists' errors. Perhaps the est engraver in the country is Mr. Timothy Cole, who has engraved most exquisitely a series of indifferently executed crayon portraits by Mr. Wyatt Eaton, which were published in ibner. Mr. Cole reproduced, with wonderful fidelity, the peculiar quality of the crayon work, and his treatment of it was really marvellous. Of course it resulted in more fine engraving than in artistic effect, but that was the fault of the artist and not of the engraver Mr. Linton, however, abuses Mr. Cole like an artistic pickpocket, because he ventured to de his work faithfully, and as he was employed to

Mr. Kelly is a very popular young designer who draws in guache with much spirit, boldness, and inaccuracy for the magazines, and be-cause Mr. Juengling engraves the white paint that Mr. Kelly uses with such effect in his drawings and really conveys its quality so that it can be retained in the printed impression, Mr. Lin-ton gets extremely angry with him, and implies that he uses a "multiple graver." This re markable tool is probably the offspring of Mr Linton's imagination, because we cannot find that any engraver of repute in New York ever As described by Mr. Linton, it would appear to be a labor-saving device in the shape f a graver which at each movement upon th wood would produce a number of lines. While t is safe to assume that an effect is worthy o more consideration than the means employed to produce it, there is no doubt that such a de vice as Mr. Linton decries would be illegitlmate -that is, from the same point of view that a painter's brush would be illegitimate if it were so fashioned that at each touch it produced an

effect of a certain kind of foliage. All this evil engraving that dragged Mr. Linton into print and which every artist in the country admires and respects, he apparently considers to be the outgrowth of an epoch of imilar iniquity in England. It seems that John Leech, John Gilbert, and certain en-graving coparceners named Dalziel, resuscitated fac-simile work, which Mr. Linton com pared to the "plank cutting" of the time of Durer and Holbein. In other words, artists began to insist on putting in an appearance before the public themselves, instead of consenting to be seen through the fantastic medium of the engraver. This quite disgusted Mr. Linton—this "manufacturing system," this "trade," this "cheese selling "—and when he "left England, ten or more years ago, there was no art of

wood engraving, there or in Prance." 'Leech," he says, " never could draw." He oncodes that he possessed "facility," "marvelous grace," and "correctness" in his "sketches of character," whatever those qualities may imoly; but from Mr. Linton's point of view he drew abominably, and left nothing to the disretion of the engraver. It is amusing to think what would have become of the John Leech of Punch, if the notions of Mr. Linton had been inected into his work after he had, in his benighted way, sketched it on the block. Leech drew directly on the wood, and with such certainty that he rarely had to reconsider a line, whereby one attains the suspicion that he knew the superior engravers of his time and evaded hem. John Leech didn't know how to draw; but neither, in his way, did Jean François Millet.

Because Mr. Linton is unhappily a disconented and disappointed engraver, and because e Atlantic Monthly allows him to proclaim the fact and assail the men who have left him so ar behind, and because he has a row with the slitor of that magazine and abuses him for laring to improve his English, thoughtful and intelligent people will not be apt to disagree with the best judges and writers on the subject, not of this country only, but of Europe also, who think that American wood engraving, for its purposes, as seen in our illustrated magazines, is the best that is done in our day, or that eyer has been done at any time.

A STORY OF THE SEA.

Two Sailors Telling of the Wreck of the British Bark Pauline.

San Francisco, July 12 .- Two men, calling themselves James Cordon and John Rowell, who have arrived at Portland, Or., from Astoria, tell a sensational story about the wreck of the British bark Pauline on the coast between Gray's Harbor and the mouth of the Columbia. They say: 'We sailed from a South Amorican port for Portland in the Pauline, with ballast. The vossel carried twenty-two men. On arriving off the Columbia bar the Capmain lost his bearing. During the night the lookout eried, Breakers ahead!' hat before a hand could be turned, with a fearful crash, which stove in the entire forward part and sont a mast and rigging overboard, she went upon the reaf. The officers and men were pante-stricken. All scrambled for themselves, and some succeeded in getting a boat out, which was swamped as soon as it struck the water. The men were swept away. We succeeded in getting a piese of the forewastle haunched into the breakers. We were carried with the swell into comparatively smooth water, and just as daylight was breaking were thrown upon the beach, more dead than alive, the only survivors of the entire erew. Not a vestige of the ship was left execut the wreek along the beach. The report lacks confirmation and is generally disletieved, although the alloged survivors tell the story with Gray's Harbor and the mouth of the Columbia, ugh the alleged survivors tell the story with

Salling of the Uncle Sam. HALIPAX, July 12.—Capt. and Mrs. Goldsmith will and train North Stainey, Cape Breton, today in the earl Uncle Eam, for Europe, calling at St. John's New-loundland.

From the Githele Result.

The sweet trained birds once more awake the wood, And fill the shout vale with joyful song. The veriant hillsels foodly now protong Enchanting senter, that late so make a select A thousand specific streams, this late so make as some and Adown the in-antime pide, and glatics along into same lake, or toward the ocean throng Unto their fair, in seeming careless much With milinger fairs the slad ward forest king. And alonder suplance of the grove are gay, Hencatt whose shade the grave are gay. The similar show for that beautiful the way.

The similar whose shade the grave and gathers bring Proclaim the presence of the summer day.

POPULAR LETTERS ON TIMELY TOPICS.

Sections or Pares.

TO THE EDITOR OF THE SUN—Sir: Do-spite the imputation to the of ignorance of history, all the facts produced by "L. N. L." in adoptor of Jefferson's alleged authorship of the Declaration of Independent alleged authorship of the Declaration of Independence have long been familiar to me. It is true that Jefferson was opposed to slavery; much more so was Pains. Ind-deed I believe he was the first to dony the right of propi-erty in mm. It is also true that Jefferson had the repul-lle never rose to the level of the Declaration of Indepen-

Wassisuros, July 10.

Washington, July 10.

To rus Edition of The Sim—Sir. All the comments against. W. H. B. "seerdon that Tom Paine was and that Thomas Jefferson was not the author of the Declarision of Delegandonce have amounted to nothing. The famous document springs from the strongest insight, asity, and contains the essence of the greatest moral ambipysical courage of some one man whose humanity was insity, and contains the description of the remaining the second of their embodiment interesting the second of

TO THE EDITOR OF THE SUN-Sir: A corre spondent at Lewiston, in his letter in this morning's Sun, does not get at the "true inwardness" of the new rati-road bridge over the Ningara River at Lewiston. He does not place the credit of this new route to Chicago. where it belongs. This will consummate a pet scheme of Mr. Samuel Sloan, one of the great railroad men of the time. For years Mr. Sloan has fought for a Western con-pection for his road, the Delsware, Lackawanna and Western. This road now runs from New York to Utles, Rome, and Svracuse. Two years ago, when Mr. Slown was President of the Michigan Central, he saw that the Rome, and Byrachie. Two years and, when Mr. Sloen, was President of the Michigan Central, he saw that the Rome, Watertown and Ogdensburg road, running from Rouse's Point, Rome, and Syrachies to Lewiston, on the Sing-ra River, ought to be connected with his Delaware, Lackawanna and Western. The connection was made, and Mr. Sloan basan to ship freight from New York to Chicago over the Delaware, Lackawanna and Western, and the Mochigan Central, Mr. Yandes-tift saw a rival through line starting on, and he ousted Mr. Sloan from the Presidency of the Michigan Central, breaking up the scheme.

Last year Mr. Sloan became Fresident of the Rome, Watertown and Oedensburg road. He could ship from New York or Boston to Lewiston, but there Vanderbill blocked the road. Now Mr. Sloan has persuaded the Great Western of Canada to foin him in building a new suspension bridge 30 feet long across the Ni gara Hiver at Lewiston. This bridge will give Mr. Sloan a chance to ship freigh over the Great Western in Law to the Standard Standar

tion with New York, Ordensburg, and, over the Vermont Central, with all New England, but it relieves many large inland towns like Buffalo. Syncause, Utlea, and Bings, homton. It makes a through route from Chicago to tile water that the New York Central, Battimers and Online, Pennsylvania, and Bric cannot molest or make afraid. And on this account New York city shouldtake off its high and make a live how to Mr. Samuel Sloan. New York, July 10.

TO THE EDITOR OF THE SUN—Sir: I have read tith much pleasure the articles in The Sus on the Smith-Sennett trial. Your remarks are just, particularly those Knapp to the jury at the trial of Smith and Bennett, I exclaimed to my wife and daughter, who were present.

"Can it be possible that there is a Judge in Jersey City in this age of enlightenment that would make such a charge to a jury sitting in a case of life and death, particularly where the evidence was so meare? If so, should not that Judge be impeached and deposed?"

I hope, Mr. Editor, you will continue to lay before the public this unaccontable action of a lay before the public this unaccontable action of the property of the present of the continue of the public this unaccontable action of arrows the entire press of this city and New Jersey to such action as will show the Judges of any court that such actions cannot be allowed to east unnoticed, and if possettle obtain for the condemned a new trial by which they may be tried fairly, and the verdict, whatever it may be made in accordance with law and justice. It will only require your customary effort to set matters right, and you will do a great service, not only to the order timate criminals, but the public, who are destrous or haven one laws pair tained and correctly and fairly and honestly carried out W. C. exclaimed to my wife and daughter, who were present.

Compensate the Property Owners TO THE EDITOR OF THE SUN-Sir: I am pleased e see that the elevated railroad corporations are so dis-nterested. They prove the public demand for rapid transit in surtherance of their schemes. Now, the only demand that political economy or common sense recognizes is as effective demand, i.e., where a satisfactory equivalent is offered for the commodity desired. The value of this equivalent should be determined by the cost of the commodity, which consists, radividually or collectively, of

recognized.

These corporations, claiming to represent the people sum the prolifer of erecting their structures and run and the prolifer of erecting their structures and run and the provider of commodity is measured by the depreciation of the value of the property along those streets caused by the road. Now, if there is an effective demand by the weede, they are assuredly able to pay, in large, this cost let the companies, then, after a fair estimate has been made, issue first mortisgue bonds to the property owned interested, sufficient in amount to cover the damages of cost, and if the directors of the campanies require to issue such bonds, taking the ground that they could not be paid, then these centuring will occupy an unideasant position, as the public does not demand the roads. D. T.

Inviting Yellow Fever.

To the Editor of The Sun-Sir: The editorial in today's sen "The Warning from Memphis," should not be overlooked lightly by our citizens, and much less by our sanitary authorities. I call their attention expects by to the initiannee (offat dock) at Wainbour Ray, which I understant has been ordered abated by the United States authorities, but which remains in full operation. All applications and efforts of the cultisens it the initiagliant vicinities but which remains in tail operation. All applications and efforts of the cultisens it the initiagliant to the large state of the initiagliant expectations and efforts of the part of the Mackey footbook. Last year several sociasses and the part of the Mackey footbook. Last year several sociasses and calls, nothing is show. What influence can there be the letter the action of those whose duty it is to guard the health of the people, poor and rich, from danger? The danger threatings New York Stat as much as Brisoslyn states in the intercolumn the literactures between the two clies, should the lever again break out at Wallabout, it may soon to beyond control, and the consequences are feating think upon. The Social States and at a intercopporation moment.

Wallabour Bay. much less by our samitary authorities. I call their atten

An Old Man's Case.

TO THE EDITOR OF THE SUN-Sir: Two gentlemen were this morning witnesses of another police ourrage. They left a few minutes past 2 o'clock their office in Frankfort street. In Chailiam street, an old man of smail stature, with a bagpine under the strin, walkeds lew paces in front of your informants. The men was apparently in the first of homor, but but intext. At the course of challent and Dance street, stood a policeman about six teethigh. The old man go changed a few words with thin and then walked on. Your injoitment and his treend had passed the policeman, when he subtestly seen after the old man a destance of the control of the street of the will ease, and then walked slowly back to his post. The slot may face begin to swell innectately and he stated to the witnesses of this outrage that he was before materials of the surface of the outrage that he was before materials of the surface of the outrage that he was before materials of the surface of the outrage that he was before materials of the surface of the outrage that he was before materials of the surface of the outrage that he was before materials of the surface of the outrage that he was before materials of the surface of the outrage that he was before the surface of the s office in Frankfort street. In Chatham street, an old

TO THE EDITOR OF THE SUN-Sir! The title of "American" has not been exclusively assumed by the people of the United States out or "national impudence" or anything else. It has come to be universally bestowed apon them, simply because it is the only name by which

Titden and Randall.

To THE EDITOR OF THE SUS-Sir! The suggestion in The Sus or sestimate relative to the merits of the two formulas should at once strike the chord of Jof-

A Wife who Appreciates a Good Husband, TO THE EDITOR OF THE SUS-SO: I am a To the Editor of the Sun-No. I am a justify married woman and have one of the best his bands in the world, but the trouble is he is out of employment. He is 24 years of one with a good coloration, first-case references, and writes a fair band. He has the every was be not a withstand, but not like the substant band. He has the every was be not a withstand, but not like the sask and hearted man in this but city of New York who would help him to a position as shiesman or inside every the

Another Voter Heard Fram. TO THE EDITOR OF THE SUS-Sir: Please court one more vine for Mr. Samuel & Ticken in 1892, whether nominated or not by the Democratic Convention. Next. L. Xiones, 44 Suppressing street.